UTAH DEPARTMENT OF TRANSPORTATION
TRAFFIC OPERATIONS CENTER
MONTHLY REPORT MARCH 2004

2060 South 2760 West, Salt Lake City, UT 84104
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Field Devices Summary

Freeway Closed Circuit Television (CCTV)	171
Surface Street CCTV	32
Dial-up CCTV	35
Total CCTV	**238**
Freeway VMS	42
Surface Street VMS	17
Portable VMS	2
Total VMS	**61**
HAR (6 deployed, 5 portable units)	11
TMS	243
RWIS	41
Connected Traffic Signals	623
Connected Ramp Meters	23

4700 South & Bangerter, Video Over IP Feed

Operations Summary

VMS Messages Displayed	351
Signal Timing Calls	40
Signal Maintenance Calls	261
New Work Orders	560
Incident Responses	542
Website Visitor Sessions	121,117
511 Calls	20,797
Email Alerts Sent	220
Weather Desk Calls	286
CommuterLink Questions	13

KUDOS!

This compliment was received in response to a Traffic Signal Timing issue, which was resolved by Roy Gregerson and Mark Taylor:

"Thank you for your prompt response. It was much better this morning. And it was nice to get an explanation of the problem. THANKS A MILLION!!"

—Carol Tolman

TOC Employee of the Month

Geri Tew – DPS Dispatcher

TOC Mission

1. To Support UDOT and the Department of Public Safety in Improving Highway Safety.
2. To Help Provide Reliable and Efficient Travel.
3. To Provide Useful and Timely Real-time Traffic Information.
4. To Work Together with Other Government Agencies to Serve the Public.
5. To Provide Excellent Customer Service.

ACTIVITY HIGHLIGHTS

TOC Activities

This Month

1. On March 16th, Mark Taylor and Larry Montoya were guest speakers at the Utah Chapter ITE luncheon. Mr. Taylor & Mr. Montoya discussed recent changes to UDOT's policies regarding signalized intersections. Some of the major changes are the placement of detection zones for approaches, design changes in poles, mast arms, luminaires, and ADA ramps. UDOT has recently changed to a multiple detector design for advanced detection, similar to Texas DOT and Caltrans. This change provides dilemma zone protection for a range of speeds rather than for one speed. In addition to this, more advanced detection is being used to increase the Level of Service of the traffic signal.

2. The Chief Information Officer from the Utah Governor's Office, Val Oveson, and the State Technical Architect, Randy Hughes, visited the TOC. UDOT Deputy Director Carlos Braceras and Dave Kinnecom hosted this visit. Mr. Oveson works with Department and Information Technology executives across the state and is responsible for the vision, strategy, direction, guidelines, policies, planning, coordination, and oversight of information technology for all of the executive branch agencies. He reports directly to the Governor and is part of her Senior Staff and Cabinet Council.

3. A delegation of twelve officials from Washington State visited the TOC on March 3rd for a briefing in preparation for the 2010 Winter Olympics, which are to be held in nearby Vancouver, Canada. Andrew Gemperline and Dave Kinnecom provided insight on maintaining traffic flows during the Olympics, and how to manage the high volumes of travelers as well as pedestrians.

4. Traffic Engineering Students from the ITE Student Chapter at Brigham Young University toured the TOC during the month of March. These fifteen students were able to see how to apply the methods and theories that they have been learning in their courses. Dave Kinnecom showed the group the various aspects of the Utah Intelligent Transportation System, particularly the traffic signal management software. He also showed them how UDOT employs different traffic simulations and models that have been developed to keep the best Level of Service possible on both surface streets and interstates.

5. Students from different schools across the state visited the TOC during the month of March. Ten students from the Tri-Connections private school toured the TOC. Tri-Connections is a school for special needs children. The students really enjoyed their fieldtrip to the TOC. Twenty-six students from the Intermountain Christian School also were able to see the different areas in the TOC including DPS, the Signal Lab, and the Control Room. The students were full of questions, and were very savvy on locating where cameras were located and where they were looking.

Tri-Connections Private School

ATMS Improvement and Expansion Activities

The following is a list of many of the projects that have either been completed, or are currently underway:

Region 1:
- Crews performed more installation work on the Ogden Traffic Signal Interconnect Project. They configured mini-hub equipment, and also installed it in the field. This required the construction of a mini-hub cabinet at 1500 West and Riverdale Road. In addition to the installation of the mini-hubs, they replaced the single-mode-fiber on Riverdale Road from 1500 West to 1900 West, and replaced the multi-mode-fiber drops.
- Work is nearly complete on the Layton Area Traffic Signal Interconnect project. During the month of March, crews configured and installed IP equipment, and performed all fiber optic testing. Configuration of the *i2TMS™* server is half complete and is the only portion of this project remaining.
- Crews pulled fiber optic cable throughout the Legacy Parkway project. This fiber runs from State Street and I-15 in Farmington to the Legacy Hub building. It then runs to various intersections and areas within the project.

Region 2:
- Michael Van Orman and Keith Scholl installed a new build of the CommuterLink software. Mr. Van Orman wrote the software for the current switching system in order for the Teleste Video Decoders to function with it. Mr. Scholl installed and configured the hardware. These decoders are needed in order to see video feeds from the cameras that were recently installed on Bangerter Highway using the new video over IP configuration.
- Wireless receivers have been repaired on the Perry Port of Entry Remote Control Flashing Sign Project. These receivers are crucial to the operation of the flashers, which have been installed on the Port of Entry "Open"/"Closed" signs. The flashers are scheduled to be tested during April.
- Three TMS sites have been relocated in preparation for a new frontage road that is to be built on the north side of SR-201 from 5600 West to 7200 South. The optical time domain reflectometer (OTDR) measurements are currently being reviewed before final acceptance of this project.

Region 3:
- Workstation equipment has been delivered to the UDOT Region 3 building in Orem. An *i2TMS™* server, video monitor, and other workstation equipment are now on hand and ready to be installed. The arrival of this equipment brings the Region one step closer to having a functional *i2TMS™* workstation.
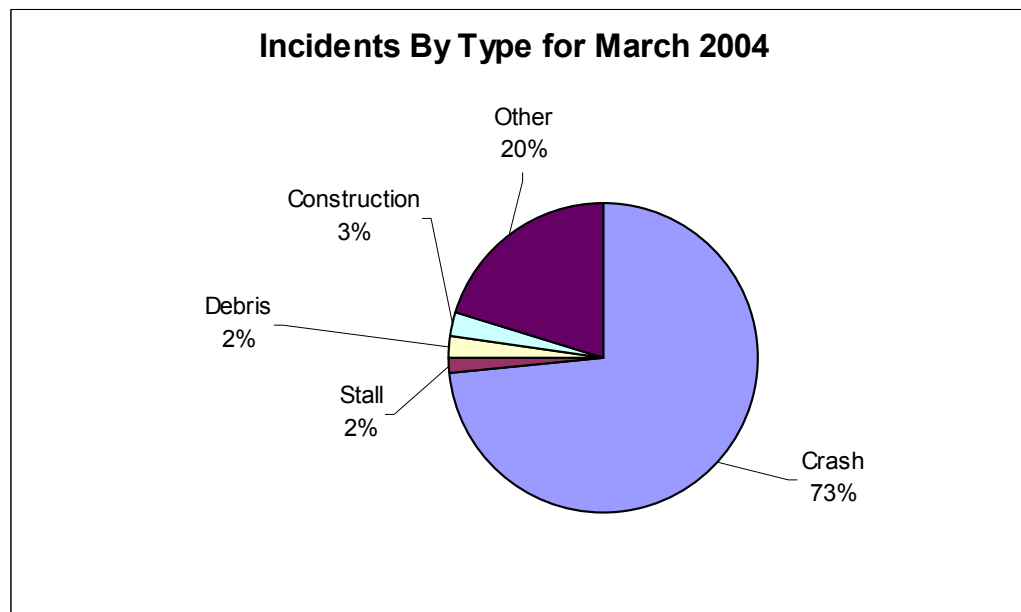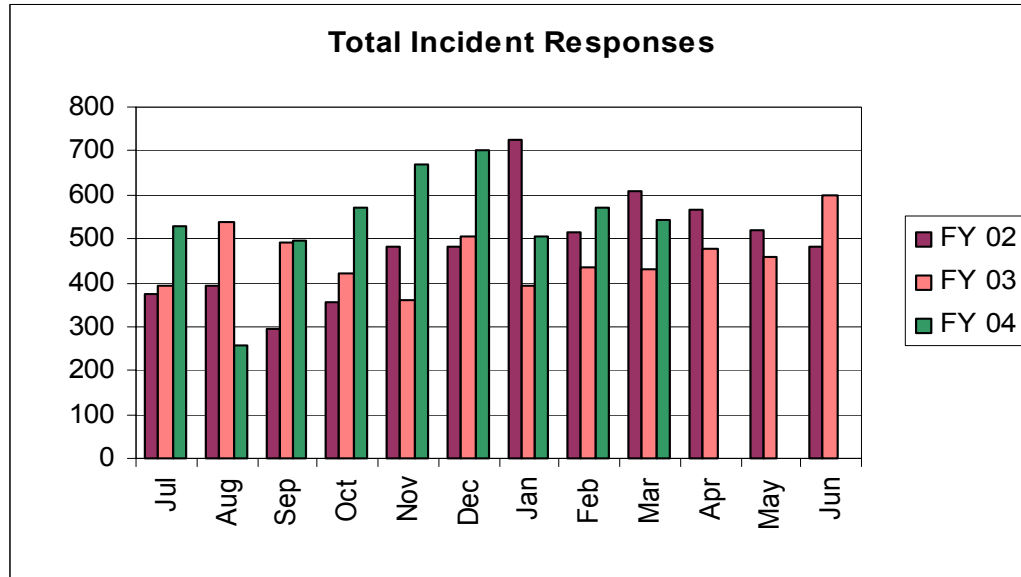
Region 4:
- The St. George concept plan to install another *i2TMS* server in this region is nearly ready for implementation. UDOT sent technicians to St. George to install some demonstration IP radios for a proof of concept test. These radios were installed at various locations with the receiving antenna located on the roof of City Hall. Traffic signal control and video detection data / images were then transmitted over these links to confirm the path analysis and frequency selection were adequate for this use. The test demonstrated a very stable connection and UDOT / St George City are now in the process of ordering equipment to make this a permanent installation. The first phase of this deployment will include installation of the *i2TMS* server, associated graphics, 2 CCTV and 10 intersections. The remaining intersections will be installed shortly thereafter when funding and schedules are finalized.
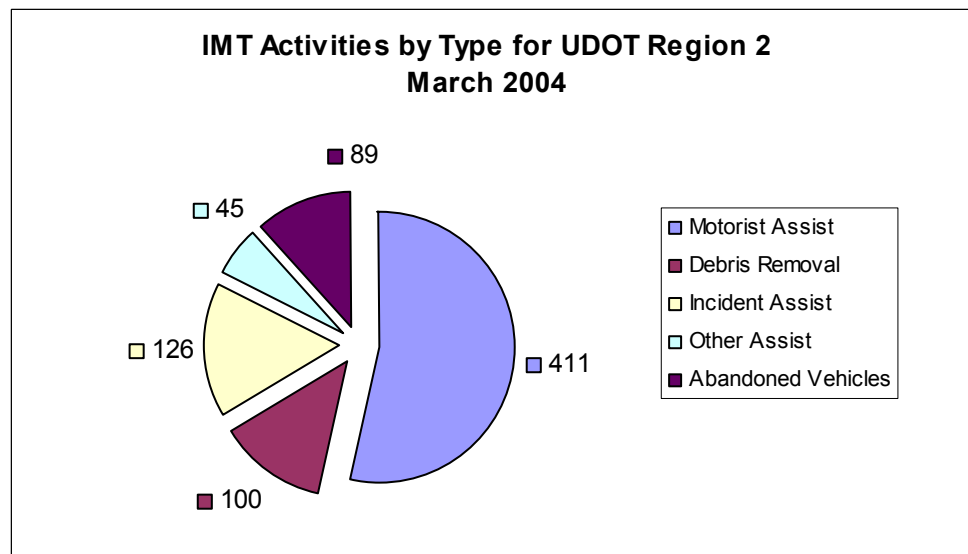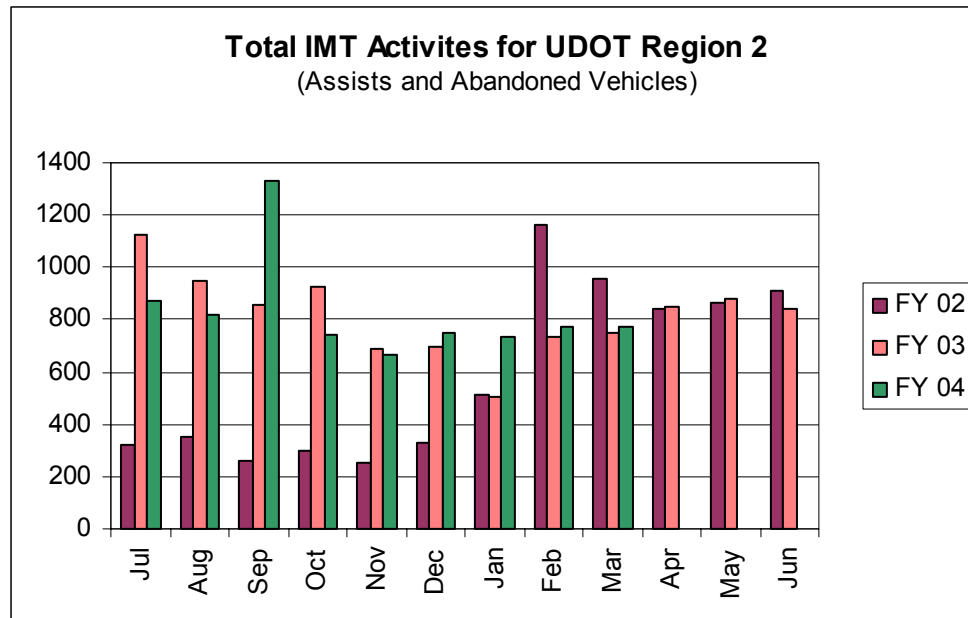

Acronyms

ATMS	Advanced Traffic Management System	TMS	Traffic Monitoring Station (count station)
CCTV	Closed Circuit Television	TOC	Traffic Operations Center
DPS	Department of Public Safety	TTI	Travel Time Index
HAR	Highway Advisory Radio	VMS	Variable Message Sign
RWIS	Road-Weather Information System	*i*2TMS	Integrated Interagency Traffic Management System

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Safety

An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts.

Total Incident Responses

Incidents By Type for March 2004

Region 2 Incident Management Team (IMT) Activities

Total IMT Activites for UDOT Region 2
(Assists and Abandoned Vehicles)

IMT Activities by Type for UDOT Region 2
March 2004

Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Salt Lake Valley. As more TMS sites are installed throughout the state, they will be included in these performance measures.

Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

Average Freeway Speed: The freeway speed is weighted by volume.

Percent of Roadway Used: The percent of roadway used is the ratio of the volume on the segment to its capacity. This is otherwise known as the volume to capacity ratio, or (v/c).
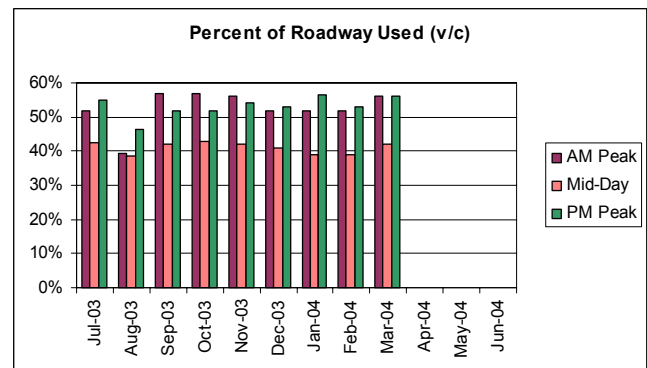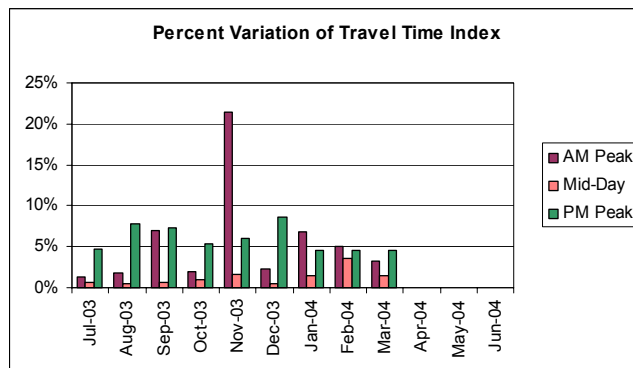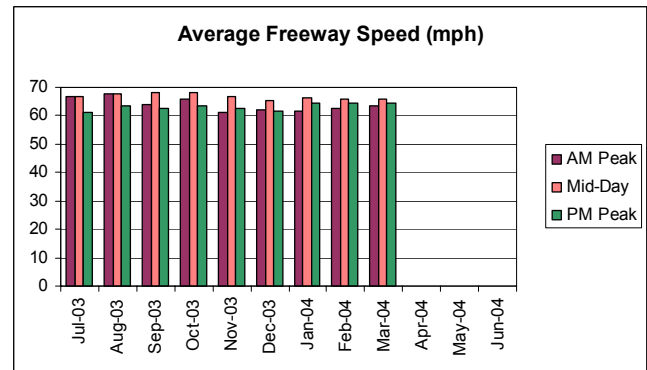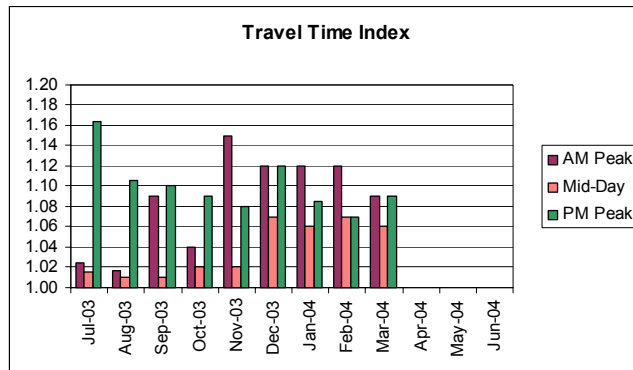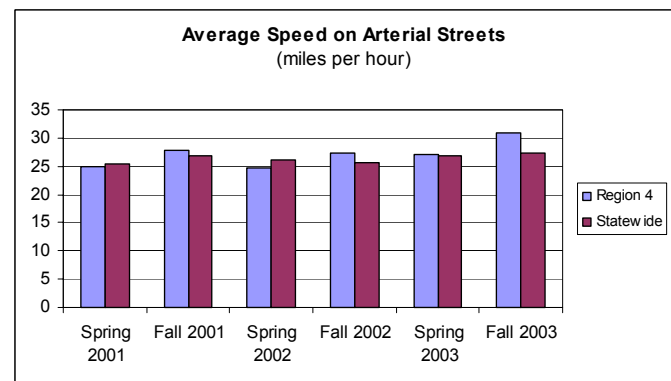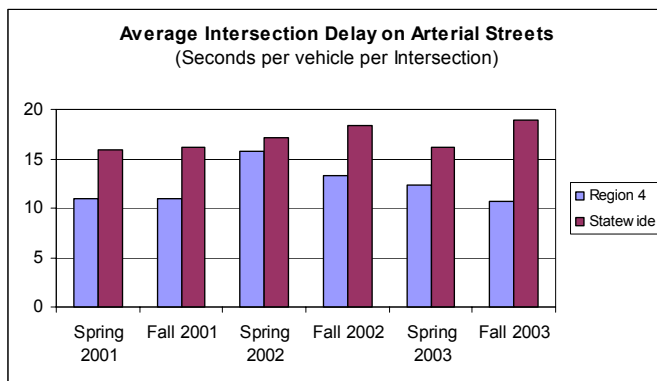

The 5 links with the highest average Travel Time Index for the month are:

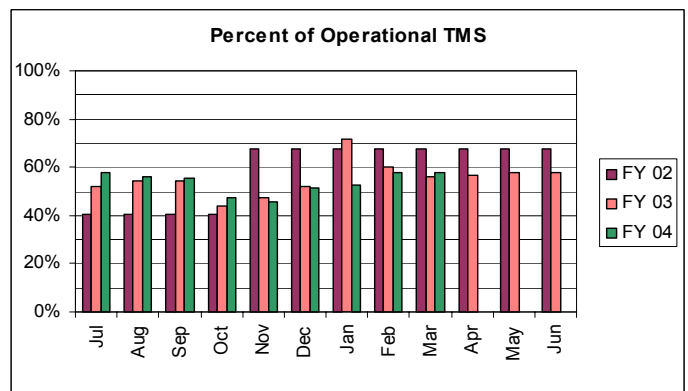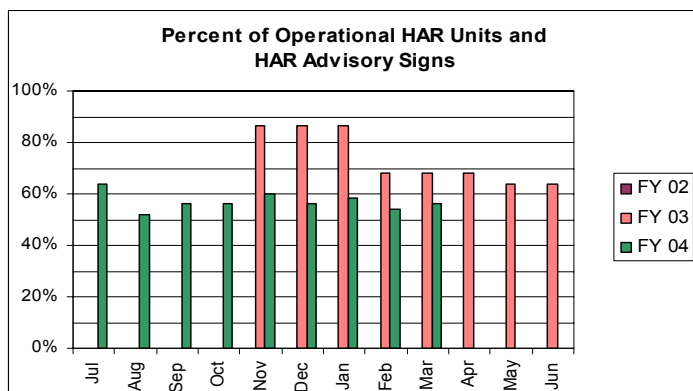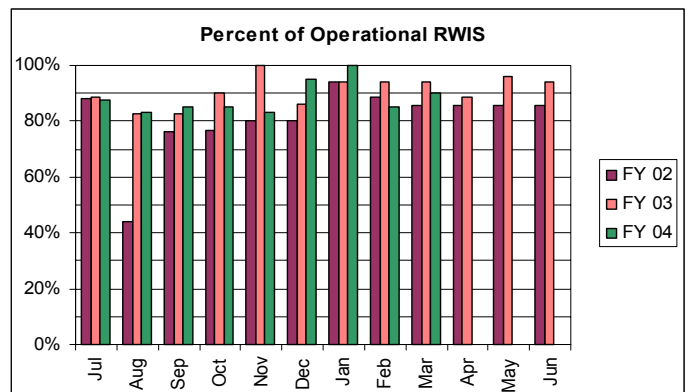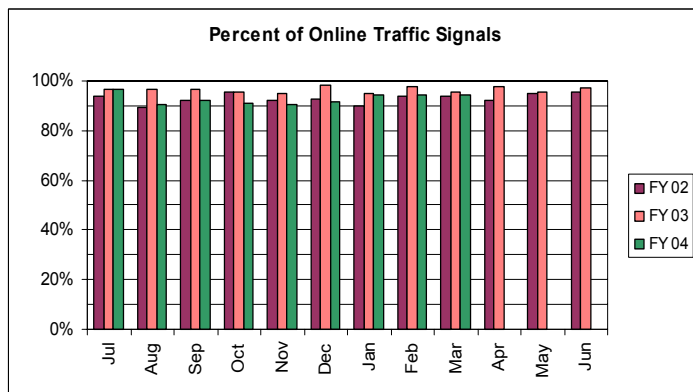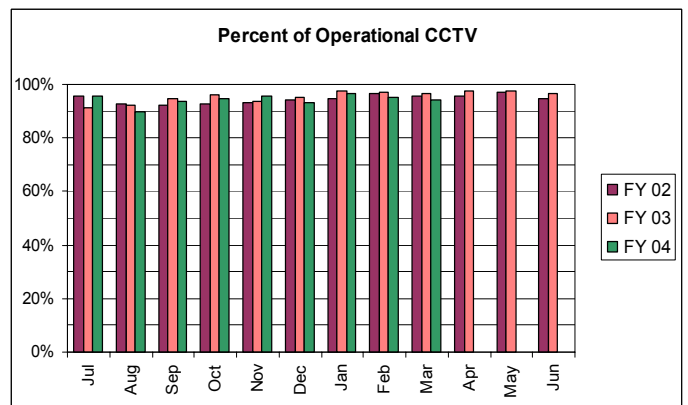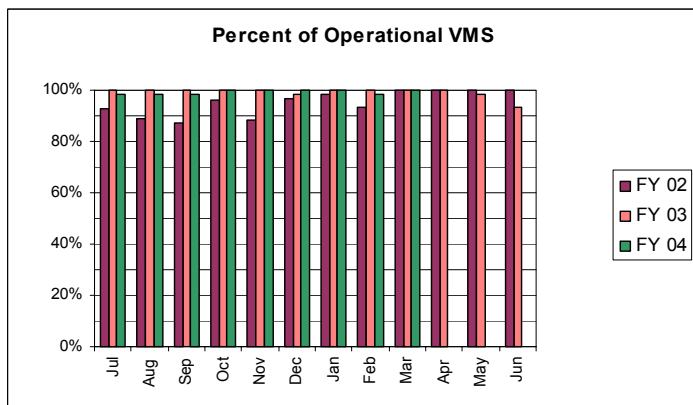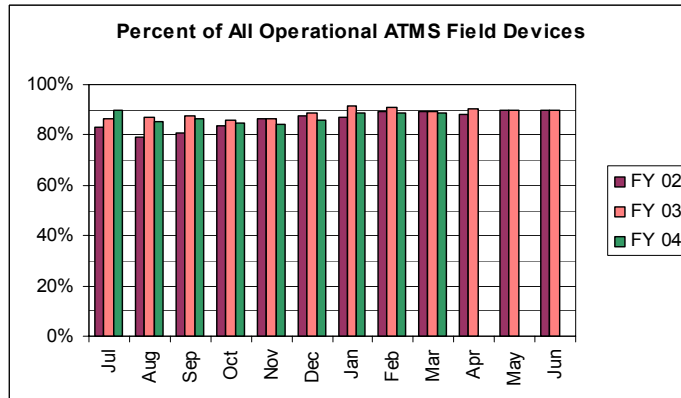| Segment	Period	Avg Of TTI
I-15 NB from 600 N to I-215 W	PM Peak	1.41
I-15 SB from 600 N to 600 S	PM Peak	1.34
I-15 SB from 600 N to 600 S	AM Peak	1.25
I-15 NB from 600 S to 600 N	PM Peak	1.22
SR-201 WB from I-215 W to 7000 W	AM Peak	1.19

Surface Street Traffic Level of Service

The surface street traffic statistics are generated through a series of Travel Time measurements. These are conducted using a special equipped vehicle which measures the average travel time, the average percent of intersections at which a vehicle must stop, the average time stopped at an intersection, and the average speed. The Traffic Systems Section gathers these measurements from Regions 1, 2, 3, and 4 twice each year. The chart in the lower right hand corner shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.
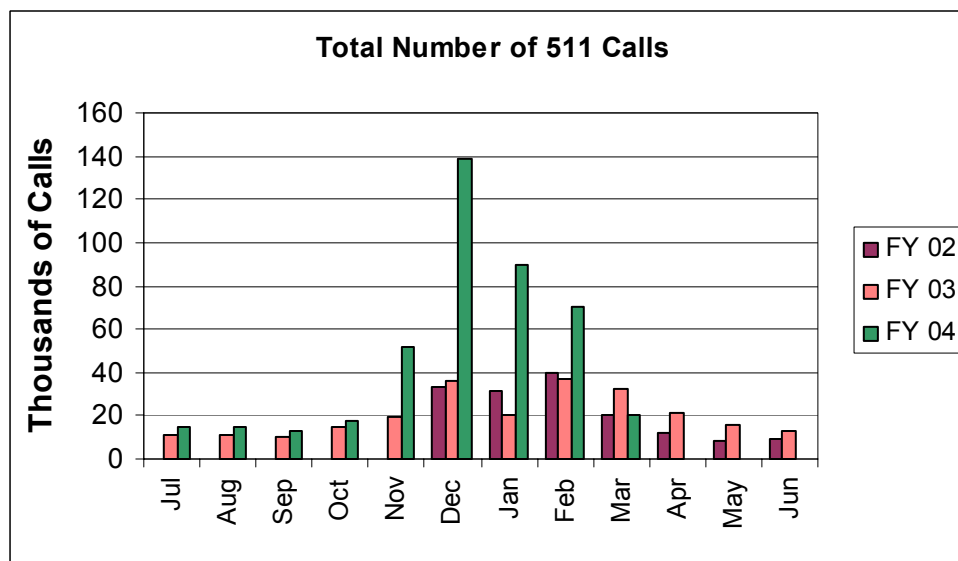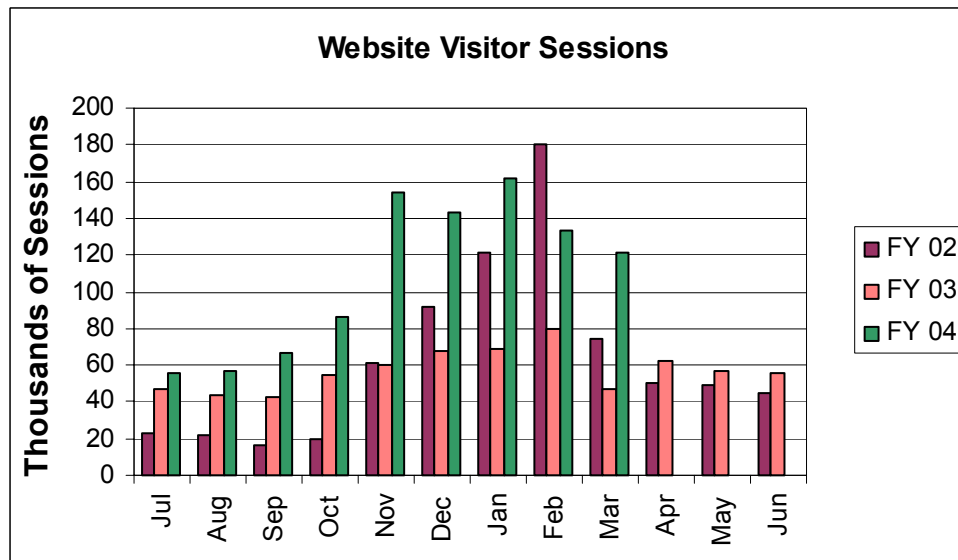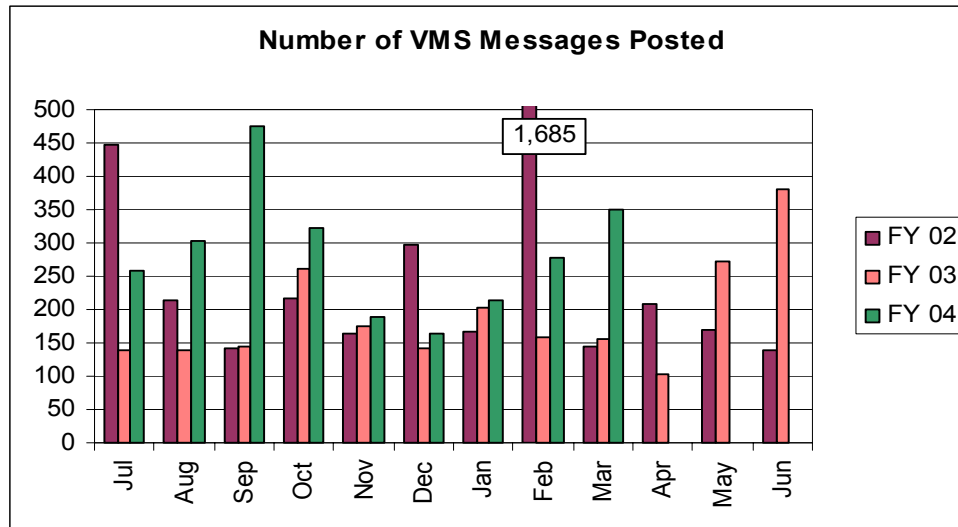
Since the data is gathered semi-annually, each month this report will provide charts for a Region compared to the Statewide Average. The charts below represent Region 4 compared to the Statewide Average.

Average Intersection Delay on Arterial Streets
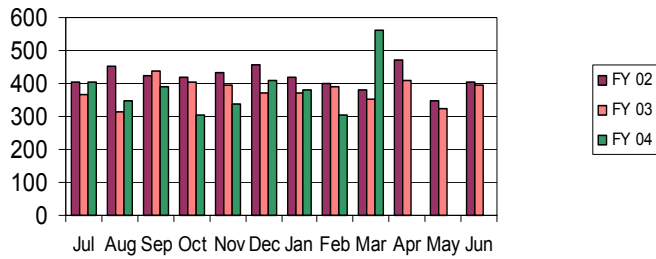(Seconds per vehicle per Intersection)

Average Speed on Arterial Streets
(miles per hour)

Average Percent Stops on Arterial Streets

Number of Incidents where Traffic Signal Timing was Utilized as a Response Tool

Maintenance

Percent of All Operational ATMS Field Devices

Percent of Operational VMS

Percent of Operational CCTV

Percent of Online Traffic Signals

Percent of Operational RWIS

Percent of Operational HAR Units and HAR Advisory Signs

Percent of Operational TMS

Traveler Information

Number of VMS Messages Posted

Website Visitor Sessions

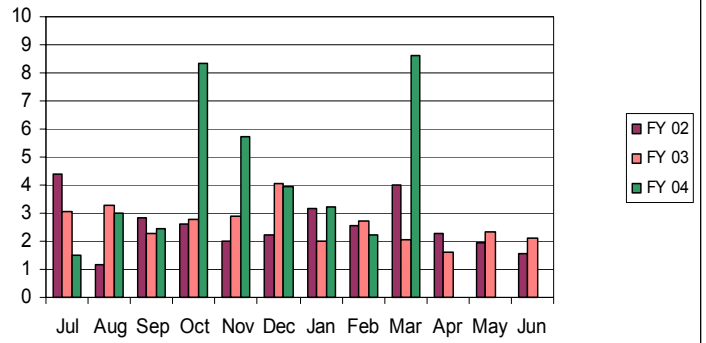
Total Number of 511 Calls
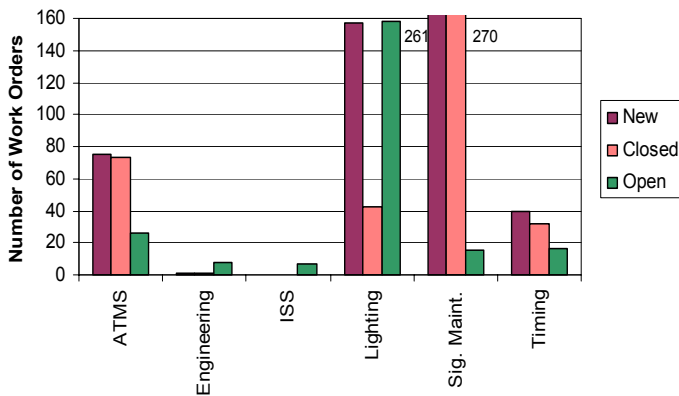
Customer Service

Number of New Work Orders

Overall Average Work Order Turnaround Days

Work Order Status by Group

Work Order Status for All Groups for FY04